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MAY 29 2007

Amendments to the Claims

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. (currently amended) Non-metallic composite inserts for use in an annular blowout preventer packing element, ~~comprising: where the packing element includes~~ where the packing element includes a flexible non-metallic composite body disposed about a longitudinal axis, the flexible non-metallic composite body carrying the non-metallic composite inserts in respective radial planes extending from the center of the ~~preventer packing element~~ preventer packing element and adapted to be compressively displaced inwardly towards the axis upon vertical actuation of the packing element, each of the inserts comprising:

upper and lower flanges;

a web element extending between said flanges, said web element including leading and trailing edges each having outer arcuate surfaces that are substantially semicircular for distributing loads applied to a bond line between the inserts and the flexible non-metallic composite body during the operation of the packing element, and

a central rib extending between the edges, the rib being thinner than the edges, whereby said web element exhibits a substantially dumbbell-shaped cross section for efficient reinforcement of the flexible non-metallic composite body,

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced, the shape of the web element increasing the volume of the flexible non-metallic composite body and eliminating the use of the metallic inserts in the packing element to reduce the loads applied to the bond line eliminate sparks and scoring of string.

2. (currently amended) A packing element for an annular blowout preventer, comprising:
which includes

a flexible non-metallic composite body disposed about a longitudinal axis and adapted to be compressively displaced inwardly toward the axis upon vertical actuation of the packing element; a plurality of non-metallic composite inserts mounted in said body in generally substantially circumferentially spaced fashion in respective radial planes extending from the a central vertical axis for reinforcing of said body, each of said inserts comprising:

upper and lower flanges; a web element extending between the flanges, the web element including; leading and trailing edges each having outer arcuate surfaces that are substantially semicircular for distributing the loads applied to a bond line between said insert and said flexible non-metallic composite body during the operation of the packing element, and

a central rib extending between the edges, the rib being thinner than the edges, whereby the web element exhibits a substantially dumbbell-shaped cross section for efficient reinforcement of the said flexible non-metallic composite body,

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced.

3. (currently amended) A blowout preventer packing element having a flexible non-metallic composite body including a plurality of spaced non-metallic composite inserts embedded in the flexible non-metallic composite body for moving with the flexible non-metallic composite body as the flexible non-metallic composite body is forced toward the center of the preventer to engage a tubular member extending through the preventer or to close the opening through the annular flexible non-metallic composite body, the improvement comprising:

providing each non-metallic composite insert with generally wedge-shaped upper and lower flanges and a connecting web attached to and extending between the said flanges, the said web comprising:

a generally flat-sided flange connecting member extending between and connected to the said upper and lower flanges and positioned in a radial plane extending from the center of the said preventer; and

edge portions having a circular cross-section and integrally connected to the edges of the sided flange;

wherein the said flat-sided flange is thinner than the said edge portions and the said web exhibits a substantially dumbbell-shaped cross-section ~~to reduce~~ whereby the volume of flexible said non-metallic composite inserts embedded in the flexible non-metallic composite body is reduced and ~~the~~ whereby stress concentrations imposed on the flexible non-metallic composite body when the flexible non-metallic composite body is forced into position to seal the opening through the preventer are reduced;

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced.

4. (currently amended) A blowout preventer packing element ~~with non-metallic composite inserts which includes~~ comprising perforated and corrugated non-metallic composite inserts mounted within a flexible non-metallic composite body, wherein each of the said perforated and corrugated non-metallic composite inserts, include upper and lower flanges and a corrugated and perforated web element extending between the said flanges, the and wherein said perforated and corrugated web element includes leading and trailing edges, each having outer arcuate surfaces that are substantially semicircular in cross-section for distributing the loads applied to a bond line between the said insert and the said flexible non-metallic composite body during the operation of the packing element, and wherein a central perforated rib extends between the said leading and trailing edges, the of said web element and said perforated rib is thinner than the said edges so that the said perforated web element exhibits a substantially dumbbell-shaped cross section for efficient reinforcement of the said flexible non-metallic composite body;

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced.

5. (new) A blowout preventer packing element comprising perforated non-metallic composite inserts mounted within a flexible non-metallic composite body, wherein each of said perforated non-metallic composite inserts include upper and lower flanges and a perforated web element extending between said flanges, and wherein said perforated web element includes leading and trailing edges, each having outer arcuate surfaces that are substantially semicircular in cross-section for distributing loads applied to a bond between said insert and said flexible non-metallic composite body during the operation of the packing element, and wherein a central perforated rib extends between said leading and trailing edges of said web element,

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced.

6. (new) A blowout preventer packing element comprising corrugated non-metallic composite inserts mounted within a flexible non-metallic composite body, wherein each of said corrugated non-metallic composite inserts include upper and lower flanges and a corrugated and perforated web element extending between said flanges, and wherein said corrugated web element includes leading and trailing edges, each having outer arcuate surfaces that are substantially semicircular in cross-section for distributing loads applied to a bond between said insert and said flexible non-metallic composite body during the operation of the packing element

whereby, because the inserts are non-metallic, sparks are inhibited between the inserts and a drill string in a borehole in which the packing element is mounted, the need to remove the drill string from the borehole due to the packing element is reduced, and wear is reduced.